

**Applicant:** Chandrika Varadachari  
**Application No.:** 10/567,425

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A process for the preparation of water insoluble, bio-release molybdenum fertilizers which comprises heating molybdenum trioxide, one or more basic compound(s) of metal(s) selected from the group consisting of magnesium, calcium and sodium, and phosphoric acid to a temperature in a range of 250 to 350°C till a solid polyphosphate is obtained and finally obtaining the dried powder.
  
2. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 1, wherein molybdenum trioxide ( $\text{MoO}_3$ ) and a basic compound such as oxides or carbonates of magnesium, calcium and/or sodium, are heated with phosphoric acid.
  
3. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 1, wherein polymerisation is allowed to occur by removal of  $\text{H}_2\text{O}$  between adjacent P-OH groups of phosphates with the formation of P-O-P bonds by heating.

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4. (Original) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 3, wherein, the polymerisation is allowed to continue till almost complete, whereupon a dry, friable powdery material is formed.

5. (Original) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 4 wherein the dry material obtained is ground to a free flowing, non-hygroscopic product

6. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 1 wherein interference by reducing impurities in ~~any of the raw materials which may interfere with the process is removed~~ reduced by the addition of an oxidant such as MnO<sub>2</sub> (pyrolusite).

7. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 1 wherein the product obtained is[[,]] a magnesium sodium polymolybdophosphate.

8. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 1 wherein the starting materials include

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molybdenum trioxide [[()]]containing up to 66.6% Mo[[]]], magnesia [[()]]containing up to 60% Mg[[]]], sodium carbonate [[()]]containing up to 43.4% Na[[]]] and phosphoric acid [[()]]containing up to 60 % P<sub>2</sub>O<sub>5</sub>[[]]].

9. (Currently amended) A process as claimed in claim 8 wherein the weight ratio of Mo: Na: Mg: P used is[[,]] 1: 0.96: 2.53: 6.46; wherein the corresponding molar ratio is 1 :4 :10 :20.

10. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim [[1]] 8 wherein ~~molar ratio of Mo: P may be varied between a molar ratio of 1:5 and 1:30 without seriously affecting product properties and is preferably in the molar ratio of 1:20 so as to produce a fertilizer with low Mo levels.~~

11. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim [[1]] 8 wherein the amount of Na is optimally at a molar ratio of 4 with respect to Mo.

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12. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim [[1]] 8 wherein the amount of Mg is in the ratio Mg: P = 1 : 2 which is sufficient to form the dihydrogen phosphate.

13. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim [[1]] 10 wherein the starting materials include molybdenum trioxide [[()]]containing up to 66. 6 % Mo[D]], sodium carbonate [[()]]containing up to 43.4 % Na[D]] and phosphoric acid [[()]]containing up to 60 % P<sub>2</sub>O<sub>5</sub>[D]].

14. (Currently amended) A process as claimed in claim [[1]] 13 wherein the molar ratio of Mo : Na: P optimally used is, 1 : 24: 20.

15. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim [[1]] 10 wherein the starting materials include molybdenum trioxide [[()]]containing up to 66.0 % Mo[D]], magnesia [[()]]ntaining up to 60 % Mg[D]] and phosphoric acid [[()]]containing up to 60 % P<sub>2</sub>O<sub>5</sub>[D]].

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16. (Currently amended) A process as claimed in claim [[1]] 15 wherein the molar ratio of Mo: Mg: P ~~optimally used~~ is, 1 : 12 : 20.

17. (Currently amended) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 1 wherein all reactants are mixed together, and heated at a temperature range of 200-350°C till dry.

18. (Original) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 17 wherein the ~~optimum~~ temperature is 300°C.

19. (Previously presented) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 1 wherein molybdenum trioxide is first heated in a solution of the base, which is selected from oxides and carbonates of sodium, calcium and magnesium and then further heated with phosphoric acid till dry.

20. (Cancelled)

21. (New) A process for the preparation of bio-release molybdenum fertilizers as claimed in claim 10 wherein the molar ratio of Mo: P is 1: 20.

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22. (New) A molybdenum fertilizer, which is water insoluble but is soluble in 0.1N hydrochloric acid and 0.33M citric acid and comprises (i) at least one percent by weight of molybdenum; (ii) phosphorus in a molar ratio of Mo: P of at least 1 : 5; and (iii) at least one of the elements selected from the group consisting of magnesium, calcium, and sodium.